

Saying “No” to Plum Curculio

A telltale, crescent-shaped blemish on apples, apricots, cherries, peaches, pears, and plums is all it takes to signal an invasion by plum curculio weevils, *Conotrachelus nenuphar*. The blemish indicates that a quarter-inch-long, brown-and-gray, adult female has laid her eggs under the skin of this developing stone or pome fruit, causing scarring and ultimately reducing yield.

Now scientists have identified a natural odor, or pheromone, released by the male curculio weevil that attracts both males and females. Placing traps baited with this chemical—grandisoic acid—into orchards at blossom time drew weevils to the traps. Work is now needed to add other volatile compounds, such as fruit odors, to increase the pheromone’s attractiveness enough to capture more weevils.

One day, baited traps may become reliable tools to help fruit growers monitor this pest’s arrival in their orchards, so they’ll know whether insecticides are necessary and when to spray them to prevent significant damage. *Fred J. Eller, USDA-ARS New Crops and Processing Research Unit, Peoria, Illinois; phone (309) 681-6232, e-mail ellerfj@mail.nciaur.usda.gov.*

Injection Boosts Piglet Weight

A one-time injection of an anti-inflammatory agent used in veterinary and human medicine may help newborn pigs get off to a better start. Repeated small-scale tests have shown about a 12-percent faster gain in body weight during the first 18 days of life in piglets given dexamethasone. It’s a synthetic version of a type of hormone—a corticoid—that is naturally produced by animals under stress.

Cutting by just one day the length of time it takes pigs to reach market weight could boost swine producers’ annual income by tens of millions of dollars. So researchers want to see whether within the first hour of birth is the best time for treating newborn pigs with dexa-

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A single vaccination of dexamethasone helps newborn piglets gain weight and may help get them to market sooner.

methasone. And they are beginning to test the one-time treatment’s long-term effects on pigs. They do this by measuring the rate of weight gain, amount of feed consumed per pound of gain, and body composition at market weight. *Jeffrey A. Carroll, USDA-ARS Animal Physiology Research Unit, Columbia, Missouri; phone (573) 882-6261, e-mail carrollja@missouri.edu.*

Peanut Butter Free of Trans Fats

Suggestions that this popular lunchbox staple contains a kind of fat that increases risk of cardiovascular disease now appear unfounded. Researchers had 11 brands of peanut butter—including store brands and “natural” brands—tested in a commercial laboratory against paste made from freshly prepared roasted peanuts. The lab found no detectable trans fats in any of the samples, with a detection limit of 0.01 percent of the sample weight.

This means that a 32-gram serving of any of the 11 brands could contain from zero to a little over three-thousandths (0.0032) of a gram of trans fats without being detected.

While current regulations don’t require food labels to disclose trans fat levels, they do require disclosure of saturated fat levels at or above five-tenths (0.5) of a gram—a level that’s 156 times higher than this study’s detection limit for trans fats.

Peanut butter has plenty of unsaturated fatty acids, with oleic acid the most abundant. It’s thought to be a beneficial fat and, in these analyses, ranged from 19 percent in one of the store brands to 27 percent in one of the natural-type spreads.

Palmitic acid, the most abundant saturated fatty acid, weighed in at about 5 percent among all brands tested. *Timothy H. Sanders, USDA-ARS Market Quality and Handling Research Unit, Raleigh, North Carolina; phone (919) 515-6312, e-mail mqhru@ncsu.edu.*

Raindrops on Cotton Can Cut Fiber Yield

Just a little bit of the wet stuff can wreck pollen and leave cotton flowers unpollinated. Sterile flowers soon fall off the plant without forming the bolls that are the source of cotton textile fibers.

Within only 30 to 60 seconds of encountering a drop of water, wet pollen grains swell up and pop open, dumping their contents prematurely. Greenhouse tests showed a 55-percent loss in seed set after just one squirt of water per test flower.

Researchers are comparing conventional overhead sprinkler irrigation fields with those watered by “drop socks” attached to sprinklers close to the ground. The drop socks minimize waterspray on plants and dramatically reduce the yield losses associated with water-induced pollen death. So watering cotton plants from below through drip, furrow, or drop-sock irrigation may help ensure adequate pollination for optimal yields. *John Burke, USDA-ARS Plant Stress and Germplasm Development Research Unit, Lubbock, Texas; phone (806) 749-5560, e-mail jburke@lbr.ars.usda.gov.*